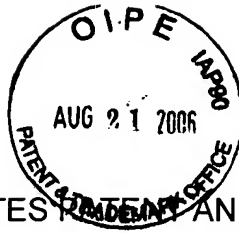


P29333



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Donald BESEMER *et al.*

Appln. No. : 10/789,678

Examiner : Handy, Dwayne K.

Filed : February 27, 2004

Group Art Unit : 1743

For : BIOARRAY CHIP REACTION APPARTUS AND ITS MANUFACTURE

FIFTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
U.S. Patent and Trademark Office
Customer Service Window, Mail Stop Amendment
Randolph Building
401 Dulany Street
Alexandria VA, 22314

Sir:

Applicants would like to thank Examiners Handy and Warden for conducting a personal interview on August 3, 2006, with Applicants' representative Philip McGarrigle and Lisa Kajisa of Affymetrix, Inc. During the interview, Applicants stated that an Information Disclosure Statement, referencing, among other things, a decision by the Board of Patent Appeals and Interferences in *Schembri v. Besemer* would be cited in the Information Disclosure Statement. Thus, in reference to the interview and further to the Information Disclosure Statements filed on June 1, 2004, May 2, 2005, November 23, 2005, December 5, 2005, and January 30, 2006, and in accordance with the duty of disclosure under 37 C.F.R. §§ 1.56, 1.97, and 1.98, Applicants hereby bring to the attention of the Examiner the following documents.

I. Documents Cited in Related Applications

Applicants hereby bring to the attention of the Examiner the following applications, upon which Applicants rely for priority under 35 U.S.C. § 120:

- U.S. Patent Application No. 10/619,224, filed July 12, 2003, which is a continuation of
- U.S. Patent Application No. 10/229,759, filed August 28, 2002 (now U.S. Patent No. 6,733,977), which is a continuation of
- U.S. Patent Application No. 10/046,623, filed January 14, 2002 (now U.S. Patent No. 6,551,817) , which is a continuation of
- U.S. Patent Application No. 09/907,196, filed July 17, 2001 (now U.S. Patent No. 6,399,365), which is a continuation of
- U.S. Patent Application No. 09/302,052, filed April 29, 1999 (now U.S. Patent No. 6,287,850), which is a continuation of
- U.S. Patent Application No. 08/485,452, filed June 7, 1995 (now U.S. Patent No. 5,945,334), which is a continuation of
- U.S. Patent Application No. 08/255,682, filed June 8, 1994 (abandoned).

Applicants bring to the Examiner's attention U.S. Patent No. 5,427,948, issued June 1995 to Diers, which is cited in the above-identified applications, but was not previously listed on a Form PTO-1449 in the previously-filed Information Disclosure Statements. Accordingly, the patent is listed on the Form PTO-1449 submitted herewith.

II. Request for Interference with U.S. Patent No. 6,682,702

On May 2, 2005, Applicants submitted a Request for Declaration of Interference suggesting the declaration of interference between the instant application and U.S. Patent No. 6,682,702, issued to Barth *et al.* (hereinafter, "the Barth '702 patent").

A. Documents Cited in Applicants' Request for Interference

The following documents were cited in the Request for Declaration of Interference:

- 1) U.S. Patent No. 4,701,754 issued October 20, 1987 to Provonchee;
- 2) U.S. Patent No. 4,912,035 issued March 27, 1990 to Belly *et al.*;
- 3) U.S. Patent No. 5,100,626 issued March 31, 1992 to Levin;
- 4) U.S. Patent No. 5,134,854 issued September 1, 1992 to Sarvetnick *et al.*;
- 5) U.S. Patent No. 5,319,436 issued June 7, 1994 to Manns *et al.*;
- 6) U.S. Patent No. 5,429,807 issued July 4, 1995 to Matson *et al.*;
- 7) U.S. Patent No. 5,457,527 issued October 10, 1995 to Manns *et al.*;
- 8) U.S. Patent No. 5,856,174 issued January 15, 1999 to Lipshutz *et al.*;
- 9) U.S. Patent No. 5,922,591 issued July 13, 1999 to Anderson *et al.*;
- 10) U.S. Patent No. 5,945,334 issued August 31, 1999 to Besemer *et al.*;
- 11) Blaheta *et al.*, Journal of Immunological Methods, 142(2): 199-206, Sept. 1991;
- 12) Manns *et al.*, May 17-21, 1999, Microplate History 2nd Ed., presented at MipTec-ICAR '99; and
- 13) New Falcon® Cell Culture Inserts Fit 24 Well Plates, news release dated April 2, 1991.

The documents enumerated as Nos. 2, and 11-13 above were previously listed on the Form PTO-1449 submitted in the application on May 2, 2005. Additionally, the document enumerated as No. 10 above was previously listed on the Form PTO-1449 submitted in the application on May 28, 2004. Accordingly, only the documents enumerated as Nos. 1, and 3-9 are listed on the Form PTO-1449 submitted herewith.

B. Documents Cited in the Barth '702 Patent

In a Preliminary Amendment filed on May 2, 2005, Applicants have presented claims that are intended to be directed to the same or substantially the same subject matter as claims in the Barth '702 patent and, as noted above, Applicants have suggested the declaration of an interference. The following documents are cited on the face of the Barth '702 patent:

- 14) U.S. Patent No. 3,873,268 issued March 1975 to McKie, Jr.;
- 15) U.S. Patent No. 5,324,633 issued June 1994 to Fodor *et al.*;
- 16) U.S. Patent No. 5,356,751 issued October 1994 to Cairncross *et al.*;
- 17) U.S. Patent No. 5,545,531 issued August 1996 to Rava *et al.*;
- 18) U.S. Patent No. 5,571,721 issued November 1996 to Turner;
- 19) U.S. Patent No. 6,054,100 issued April 2000 to Stanchfield *et al.*;
- 20) U.S. Patent No. 6,083,763 issued July 2000 to Balch;
- 21) U.S. Patent No. 6,126,899 issued October 1000 to Woudenberg *et al.*;
- 22) U.S. Patent No. 6,376,256 issued April 2002 to Dunnington *et al.*;
- 23) U.S. Patent No. 6,376,619 issued April 2002 to Halverson *et al.*;
- 24) U.S. Patent No. 6,395,483 issued May 2002 to Patil *et al.*;
- 25) U.S. Patent No. 6,410,332 issued February 2002 to Desrosiers *et al.*;

- 26) WO 98/29736, published on 7/1998;
- 27) WO 00/72968, published on 12/2000; and
- 28) WO 00/73766, published on 12/2000.

The document enumerated as No. 18 above was previously listed on the Form PTO-1449 submitted in the application on November 18, 2005. Accordingly, only the documents enumerated as Nos. 14-17 and 19-28 are listed on the Form PTO-1449 submitted herewith.

III. Interference No. 105,285

A. The Declaration of Interference No. 105,285

On February 16, 2005, the Board of Patent Appeals and Interferences ("Board") declared an Interference No. 105,285, captioned Carol T. Schembri (U.S. Patent No. 6,513,968) *versus* Besemer et al. USSN 10/619,224 ("the Besemer '224 application"). The instant application is a continuation of the Besemer '224 application. U.S. Patent No. 6,513,968 was listed on the Form PTO-1449 submitted on November 18, 2005. The Board's decision in the interference is listed on the Form PTO-1449 and attached thereto.

B. Issues Raised In Interference No. 105,285

On April 15, 2005, each party filed a list of intended substantive motions in Interference No. 105,285. The following documents were cited in the motions lists and, therefore, should be considered by the Examiner and made of record in the instant application:

- 29) U.S. Patent No. 5,578,832 issued November 26, 1996 to Trulson *et al.*;
- 30) U.S. Patent No. 5,834,758 issued on November 10, 1998 to Trulson *et al.*;

- 31) U.S. Patent No. 5,856,174 issued on January 5, 1999 to Lipshutz *et al.*;
- 32) U.S. Patent No. 5,922,591 issued on July 13, 1999 to Anderson *et al.*;
- 33) U.S. Patent No. 5,945,334 issued on August 31, 1999 to Besemer *et al.*;
- 34) U.S. Patent No. 6,114,122 issued on September 5, 2000 to Besemer *et al.*;
- 35) U.S. Patent No. 6,391,623 issued on May 21, 2002 to Besemer *et al.*; and
- 36) Published PCT Application No. WO 95/33846 published on December 14, 1995 to Besemer *et al.*

The documents enumerated as Nos. 29 and 33 above were previously listed on the Form PTO-1449 submitted in the instant application on May 28, 2004. Accordingly, only the documents enumerated as Nos. 30-32, and 34-36 are listed on the Form PTO-1449 submitted herewith.

IV. Applications Presenting the Same Set of Claims

Applicants bring to the Examiner's attention that in a related application, Applicants have also presented claims that are intended to be directed to the same or substantially the same subject matter as claims in Barth '702 patent. That related application is U.S. Patent Application No. 11/044,834 to Rava *et al.*, filed January 26, 2005, published as U.S. Patent Publication No. 2005-0181403 A1 on August 18, 2005.

V. Other Documents

Provided below is a list of additional documents that Applicants bring to the Examiner's attention:

- 37) U.S. Patent No. 5,196,305 issued March 23, 1993 to Findlay *et al.*;

- 38) U.S. Patent No. 5,348,855 issued September 29, 1994 to Dattagupta *et al.*;
- 39) U.S. Patent No. 5,382,512 issued January 17, 1995 to Smethers *et al.*;
- 40) U.S. Patent No. 5,384,216 issued January 24, 1995 to Teraoka *et al.*;
- 41) U.S. Patent No. 6,835,938 issued December 28, 2004 to GHOSH *et al.*;
- 42) U.S. Patent No. 6,905,816 issued June 14, 2005 to Jacobs *et al.*;
- 43) U.S. Application Publication No. 2002-0018991 A1 to Rava *et al.*,
published 2/14/02;
- 44) U.S. Application Publication No. 2002-0095073 A1 to Jacobs *et al.*,
published 7/18/02 (now U.S. Patent No. 6,905,816, issued 6/14/05);
- 45) U.S. Application Publication No. 2003-0113724 A1 to Schembri *et al.*,
published 6/19/03;
- 46) U.S. Application Publication No. 2003-0124029 A1 to Webb *et al.*,
published 7/3/03;
- 47) U.S. Application Publication No. 2003-0203492 A1 to Sillman, published
10/30/03;
- 48) U.S. Application Publication No. 2004-0096914 A1 to Fang *et al.*,
published 5/20/04;
- 49) U.S. Application Publication No. 2004-0208800 A1 to Barth *et al.*,
published 10/21/04;
- 50) U.S. Application Publication No. 2005-0042628 A1 to Rava *et al.*,
published 2/24/05;

- 51) U.S. Application Publication No. 2005-0026299 A1 to Bhattacharjee *et al.*, published 2/3/05;
- 52) U.S. Application Publication No. 2005-0123907 A1 to Rava *et al.*, published 6/9/05;
- 53) U.S. Application Publication No. 2005-0181403 A1 to Rava *et al.*, published 8/18/05; and
- 54) U.S. Application Publication No. 2005-0191694 A1 to Jacobs, published September 1, 2005.

The above-identified documents are set forth on the Form PTO-1449 submitted herewith.

VI. Other Related Proceedings

Applicants again bring to the Examiner's attention the patent infringement case, *Affymetrix v. Illumina*, Civil Action No. 04-901-JJF in the U.S. District Court for the District of Delaware, in which the assignee of the instant application alleges infringement of, *inter alia*, U.S. Patent Nos. 6,399,365 ("the '365 patent") and 5,545,531 ("the '531 patent"). The application which resulted in the '365 patent is included in the chain of benefit claimed under 35 U.S.C. § 120 in the instant application.

The '365 and '531 patents were set forth on the Form PTO-1449 submitted on May 18, 2005 and May 28, 2004. The following documents were cited against the '365 and '531 patents claims in the above-identified civil action and are listed on the attached Form PTO-1449:

- 55) U.S. Patent No. 5,143,854 issued September 1, 1992 to Pirrung *et al.*;
- 56) U.S. Patent No. 5,593,839 issued January 14, 1997 to Hubbell *et al.*;

- 57) U.S. Patent No. 5,700,637 issued December 23, 1997 to Southern;
- 58) U.S. Patent No. 5,807,522 issued September 15, 1998 to Brown *et al.*;
- 59) U.S. Patent No. 6,103,463 issued August 15, 2000 to Chetverin *et al.*;
- 60) U.S. Patent No. 6,140,044 issued October 31, 2000 to Besemer *et al.*;
- 61) U.S. Patent No. 6,270,961 issued August 7, 2001 to Drmanac;
- 62) U.S. Patent No. 6,355,432 issued March 12, 2002 to Fodor *et al.*;
- 63) WO 92/10092 published on 6/25/92 to Fodor *et al.*;
- 64) WO 93/17126 published September 2, 1993 to Cherverin *et al.*;
- 65) WO 95/09248 published April 6, 1995 to Drmanac;
- 66) GB 2129551A published May 16, 1984 to Mochida;
- 67) Drmanac et al., SBH and The Integration of Complementary Approaches in the Mapping, Sequencing, and Understanding of Complex Genomes, 1992, pp. 121-134;
- 68) Fodor et al., "Light-Directed, Spatially Addressable Parallel Chemical Synthesis," Science 251, 767-773 (1991);
- 69) Fisher, L.M. (March 3, 1991), "Microchips for Drug Compounds," The New York Times, p. F7;
- 70) Uwe Maskos, "A Novel Method of Nucleic Acid Sequence Analysis," Doctoral Thesis, University of Oxford (1991);
- 71) Figure re: Format 3: Combinatorial Chip (Page marked IAFP00643752);
- 72) Abstracts, Biochip Arrays Technologies, Fabrication & Applications, May 10, 1995, Stouffer Mayflower Hotel, Washington, DC. (Pages marked IAFP00643753-54);

- 73) Sequencing By Hybridization (SBH) On Super Chips, Radoje T. Drmanac, Ph.D., Senior Vice President for Research, Hyseq Inc. (Pages marked IAFP00643755-69);
- 74) Hyseq to License High-Speed Gene-Sequencing Technology for Diagnostic Applications, New Development Allow Rapid Detection of Gene Mutations, Press Release, Sunnyvale, CA, Jan. 11, 1995. (Pages marked IAFP00643770-71); and
- 75) Materials from Hyseq Inc.: "Genome Sequencing Machine," p. 60; Summary materials (5pgs.) (Pages marked AVI_149700-05).

The documents enumerated as Nos. 55, 57-61, 63-65 and 70 above were previously listed on the Form PTO-1449 submitted in the instant application. Accordingly, only the documents enumerated as Nos. 56, 62 66-69, 71-75 are listed on the Form PTO-1449 submitted herewith.

Applicants respectfully request the Examiner make the listed documents of record in this application by initialing in the appropriate spaces on the attached Form PTO-1449. Applicants respectfully request that the Examiner include a copy of the initialed Form PTO-1449 with the next communication from the U.S. Patent and Trademark Office.

In accordance with 37 C.F.R. § 1.98, copies of the U.S. patents and U.S. published patent applications are not enclosed herewith. However, if any copies are needed, the Examiner is respectfully requested to contact the undersigned, and copies will be provided.

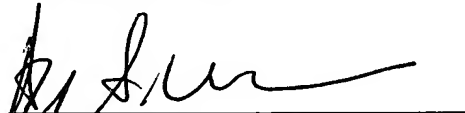
Citation of any document herein shall not be construed as: (1) an admission that the document is necessarily prior art with respect to the instant invention; (2) a representation that a search has been made; or (3) an admission that the information noted herein is, or is considered to be, material to patentability in any way, including that as defined in § 1.56(b).

Applicants note that this disclosure statement is being filed after a final rejection, mailed April 19, 2006, in the present application. Accordingly, consideration of the above-identified documents by the Examiner is discretionary. However, the Examiner is respectfully requested to consider these documents, particularly insofar as this request is not believed to be unduly burdensome.

If any fees are necessary for consideration of this disclosure statement, Applicants hereby authorize the charging of any required fee to Deposit Account No. 19-0089.

If the Examiner has any questions, the Examiner is invited to contact the undersigned at the below-listed telephone number.

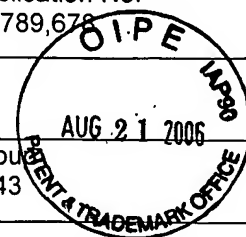
Respectfully submitted,
BESEMER et al.



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FORM PTO-1449	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No. P29333	Application No. 10/789,678
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)		Applicant Besemer et al.	
		Filing Date February 27, 2004	Group 1743

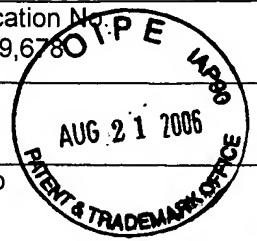


U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		3 8 7 3 2 6 8	3/1975	McKie, Jr.			
		4 7 0 1 7 5 4	10/20/87	Provonchee			
		5 1 0 0 6 2 6	3/31/92	Levin			
		5 1 3 4 8 5 4	9/1/92	Sarvetnick et al.			
		5 1 9 6 3 0 5	3/23/93	Findlay et al.			
		5 3 1 9 4 3 6	6/7/94	Manns et al.			
		5 3 2 4 6 3 3	6/1994	Fodor et al.			
		5 3 4 8 8 5 5	9/20/94	Dattagupta et al.			
		5 3 5 6 7 5 1	10/1994	Cairncross et al.			
		5 3 8 2 5 1 2	1/17/95	Smethers et al.			
		5 3 8 4 2 1 6	1/24/95	Teraoka et al.			
		5 4 2 7 9 4 8	6/1995	Diers			
		5 4 2 9 8 0 7	7/4/95	Matson et al.			
		5 4 5 7 5 2 7	10/10/95	Manns et al.			
		5 5 7 1 7 2 1	11/1996	Turner			
		5 5 9 3 8 3 9	1/14/97	Hubbell et al.			
		5 8 3 4 7 5 8	11/10/98	Trulson et al.			
		5 8 5 6 1 7 4	1/5/99	Lipshutz et al.			
		5 9 2 2 5 9 1	7/13/99	Anderson et al.			
		6 0 5 4 1 0 0	4/2000	Stanchfield et al.			
		6 0 8 3 7 6 3	7/2000	Balch			
		6 1 1 4 1 2 2	9/5/00	Besemer et al.			
		6 1 2 6 8 9 9	10/2000	Woudenberg et al.			
		6 3 7 6 2 5 6	4/2002	Dunnington et al.			
		6 3 7 6 6 1 9	4/2002	Halverson et al.			
		6 3 9 1 6 2 3	5/21/02	Besemer et al.			
		6 3 9 5 4 8 3	5/2002	Patil et al.			
		6 4 1 0 3 3 2	2/2002	Desrosiers et al.			
		6 5 5 1 8 1 7	4/22/2003	Besemer et al.			
		6 8 3 5 9 3 8	12/28/04	Ghosh et al.			
		6 9 0 5 8 1 6	6/14/05	Jacobs et al.			

EXAMINER	DATE CONSIDERED
*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)	Atty. Docket No. P29333	Application No. 10/789,678
	Applicant Besemer et al.	
	Filing Date February 27, 2004	Group 1743



U.S. PATENT APPLICATION PUBLICATION DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		US- 2002-0018991 A1	2/14/02	Rava et al.			
		US- 2002-0095073 A1	7/18/02	Jacobs et al.			
		US- 2003-0113724 A1	6/19/03	Schembri et al.			
		US- 2003-0124029 A1	7/3/03	Webb et al.			
		US- 2003-0203492 A1	10/30/03	Sillman			
		US- 2004-0096914 A1	5/20/04	Fang et al.			
		US- 2004-0208800 A1	10/21/04	Barth et al.			
		US- 2005-0042628 A1	2/24/05	Rava et al.			
		US- 2005-0026299 A1	2/3/05	Bhattacharjee et al.			
		US- 2005-0123907 A1	6/9/05	Rava et al.			
		US- 2005-0181403 A1	8/18/05	Rava et al.			
		US- 2005-0191694 A1	9/1/05	Jacobs			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		WO 95/33846	12/14/95	WIPO			
		WO 98/29736	7/1998	WIPO			
		WO 00/72968	12/2000	WIPO			
		WO 00/73766	12/2000	WIPO.			
		GB 2129551A	5/16/84	Great Britain			

EXAMINER	DATE CONSIDERED
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*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449		U.S. Department of Commerce Patent and Trademark Office		Atty. Docket No. P29333	Application No. 10/789,678
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)				Applicant Besemer et al.	
				Filing Date February 27, 2004	Group 1743
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)					
		Drmanac et al., SBH and The Integration of Complementary Approaches in the Mapping, Sequencing, and Understanding of Complex Genomes, 1992, pp. 121-134.			
		Fodor et al., "Light-Directed, Spatially Addressable Parallel Chemical Synthesis," Science 251, 767-773 (1991).			
		Fisher, L.M. (March 3, 1991), "Microchips for Drug Compounds," <i>The New York Times</i> , p. F7.			
		Figure re: Format 3: Combinatorial Chip. (Page marked IAFP00643752).			
		Abstracts, Biochip Arrays Technologies, Fabrication & Applications, May 10, 1995, Stouffer Mayflower Hotel, Washington, DC. (Pages marked IAFP00643753-54).			
		Sequencing By Hybridization (SBH) On Super Chips, Radoje T. Drmanac, Ph.D., Senior Vice President for Research, Hyseq Inc. (Pages marked IAFP00643755-69).			
		Hyseq to License High-Speed Gene-Sequencing Technology for Diagnostic Applications, <i>New Development Allow Rapid Detections of Gene Mutations</i> , Press Release, Sunnyvale, CA, Jan. 11, 1995. (Pages marked IAFP00643770-71).			
		Materials from HYSEQ Inc.: "Genome Sequencing Machine," p. 60; Summary materials (5pgs.) (Pages marked AVI_149700-05).			
		Interference No. 105,285, Carol T. Schembri (U.S. Patent No. 6,513,968) <i>versus</i> Besemer et al. (USSN 10/619,224), Decisions-Motions-Bd. R. 125(a), Decisions on Preliminary Motions (Paper No. 69).			
EXAMINER			DATE CONSIDERED		
*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.					

